KENTUCKY STATE PLAN REVISIONS
PERKINS III GRANT AWARDS
FY 05

A. **Improving the Academic Skills of Vocational and Technical Education Students**

Revisions

Revise your state plan to reflect the implementations of NCLB within your state. In your revision, you should describe:

1. How your state is coordinating its implementation of Perkins III with its effort to implement NCLB, particularly Part A of Title I of the Elementary and Secondary Education Act of 1965 (ESEA), as amended by NCLB, as it relates to high schools within your state. See section 122(c)(16) of Perkins III.

   In 1990, the Kentucky Education Reform Act included state assessments to measure the academic progress of Kentucky schools. The goal was to have all students score proficient or better on all the state assessments. Core content was identified for each of the academic subjects that all students should know when they leave high school. The state assessment for high school math is given in the 11th grade, the state reading assessment is given in the 10th grade, and writing/English assessment is given in the 12th grade. All other tests are given in the lower grades. The writing/English assessment is the performance indicator for measuring academic attainment of secondary career and technical education students who are leaving secondary education. The state assessments have been aligned with No Child Left Behind and the math and reading assessment results are reported to the schools for the students who are concentrating in Career and Technical Education Programs.

   The Kentucky Department of Education's Office of Assessment and Accountability Services has agreed to provide to the Department for Technical Education the 12th grade state assessment aggregate scores of secondary technical education students attending the state operated area technology centers and the postsecondary technical education institutions. The aggregate scores are based on the number of students from each home high school who attend the area center or postsecondary technical education institution. This data will provide institutional academic indicator results needed for the area technology centers and postsecondary institutions that serve students from local school districts. education students.

   Career and technical education students made more academic gains than all the other secondary students in the state in 2002 and 2003. The statewide index for Career and Technical Education concentrators for 2001 was 59.8; 2002 was 61.8; and 2003 was 64.4. The statewide index for all other students for 2001 was 63.4; 2002 was 65.1; and 2003 was 66.8. The gain for Career and Technical Education

in 2002 was +2.0 as compared to all other students of +1.7; the gain for career and technical education for 2003 was +2.6 as compared to +1.7 for all other students.

2. Any new strategies or activities your state is undertaking, and will continue to undertake over the next year to, "ensure that students who participate in such vocational and technical education programs are taught to the same challenging academic proficiencies as are taught to all other students." Section 122 (c) (5)(B) of Perkins III.

   Academic/interdisciplinary courses have been developed and implemented into the curriculum in some local school districts and state operated area technology centers to give technical education students high school graduation credits in math, science, economics (social studies) or health. The interdisciplinary courses are included in the sequence of courses in the appropriate technical education program in agriculture, business, computer aided drafting, construction, health, and hospitality services (food science). The interdisciplinary courses are agrobiology, agroscience, nutritional and food science, and medical science for life science components with the science requirement. Other technical education courses that count for high school graduation requirements are business economics and consumer economics for economics requirement in social studies, computer aided drafting and construction technology for geometry requirement, and Math for Business and Industry for math requirement. The health and wellness course earns ½ credit in health and physical education.

   Career and technical education teachers from construction, drafting, and business programs and teachers certified in mathematics participated in professional development activities to align the technical education curriculum and the mathematics curriculum and developed a teamwork approach so that the career and technical education students would receive math credit. Technical education students receive a mathematics credit that meets the high school graduation requirements.

   Several school districts have entered into an agreement with the state operated area technology centers to count the applied academics in selected career and technical education programs toward the students' high school graduation requirements. The academic and career and technical education teachers collaborate with the academic teacher(s) at the high school to assure all the Kentucky core content is taught. Math and science credits are awarded for high school graduation to students who are enrolled in the state operated area technology centers. Forty-four high schools grant math and/or science credits for applied academics integrated with technical education content in thirty-three area technology centers.

   Curriculum and lesson plans for career and technical education programs are aligned with the Kentucky core content that was mandated in the Kentucky

Educational Reform Act. As new technologies evolve in the workplace, appropriate changes are made to the curriculum to be current with business and industry; the technical changes made to the curriculum are aligned with the core content. The alignment of the core content with the technical education curriculum and lesson plans facilitates the process of teaching the same core content to all students. Curriculum alignment workshops were held for all career and technical education program areas last summer. The Department of Education is beginning to work on standards-based units of study. This will include core content alignment, Kentucky Skill Standards, and industry certifications.

The Kentucky Skill Standards Assessment System includes assessments on employability, math, reading, writing, and technical skills. Program assessment standards (program evaluations) include the review of the CATS scores as well as portfolio entries and open response materials incorporated into classroom assignments and assessments. Technical update training for teachers includes an option for learning how to better develop open-response questions for student testing and for portfolio writing student assessment.

New teachers from business and industry (health occupations, technical occupations, and industrial occupations) who do not have a teaching certificate enroll in a state sponsored New Teacher Institute. Teachers who graduate from college with a teaching certificate may also participate in the New Teacher Institute with the permission of their supervisors. The Institute is divided into two sessions; the first session is a five-day session and covers State requirements that includes Kentucky academic core content, technical competencies included in the technical education curriculum, and how-to teach sessions. Curricula specialists teach the new teachers what the academic core content is, where the academics are integrated into the technical education curricula and how it is integrated into the technical education curricula.

The culminating experience of the five-day session is to practice teaching a lesson to peers who are enrolled in the training. Peers critique the teaching strategies used in the practice teaching session. Later in the year a two-day follow up session is held to review and to respond to any difficulties the new teachers may have experienced.

Enrollments in the five-day sessions are limited to 20 new teachers per session. The number of new teachers who enroll determines the number of five-day sessions held throughout the year. The two-day follow up session includes all the new teachers who were enrolled in each of the five-day sessions.

3. Any new strategies or activities your state is undertaking, and will continue to undertake over the next year to assist individuals who are members of special populations to meet state academic standards. The term “special populations” means “(1) individuals with disabilities; (2) individuals from economically

disadvantaged families, including foster children; (3) individuals preparing for nontraditional training and employment; (4) single parents, including single pregnant women; (5) displaced homemakers; and (6) individuals with other barriers to educational achievement, including individuals with limited English proficiency. Sections 3(23) and 122(c) (8) (C) Perkins III.

At the secondary level, some districts have liaison personnel who work with students who have disabilities and other teachers as well as assisting the students if instructional modifications are needed. The liaisons work at both the home high school and the area technology center for the student enrolled in a program at the area technology center. The liaison may also team-teach with the technical education teachers.

Kentucky Career and Technical Education is committed to enabling students to graduate from high school and continue their education either in a postsecondary educational institution or through employment and the educational opportunities offered through the employer. In several school districts, the implementation of the interdisciplinary courses that use the applied academics that are integrated into technical education programs allows to earn high school graduation requirements. In those districts, both the academic teacher and the technical education teacher work with all of the technical education students, including the special populations, to facilitate their understanding of academic and technical skills needed for their chosen occupational objective.

The New Teacher Institute devotes one session to providing information to help in the understanding of the requirements related to special population in Perkins, IDEA, ADA, and Section 504 and to meet the educational needs of students who have a disability or disabilities. Specific strategies are shared with the new teachers on how to enable a student with a disability or disabilities to succeed at the same level as all other students. In addition teaching strategies are shared with the new teachers on how to meet the educational needs of all the students who choose to enroll in career and technical education. One of the techniques is to teach the new teachers to identify learning styles of students and to use that information in developing teaching and learning strategies for the students who are enrolled in their programs. Teacher behaviors stressed throughout the New Teacher Institute are to demonstrate high expectations for all students and positive interactions with students that encourage the students to think, apply, and arrive at an answer. One of the key components the New Teacher Institute strives to impart to new teachers is that students quickly understand whether or not the teacher expects them to achieve. The intent is to prepare new teachers who came from business and industry to meet the educational needs of all students enrolled in their programs.

Professional development activities will be held at the 2004 summer conference and will include sessions for teachers who work with special needs students as well as well as all students. Other professional development activities include

occupation specific technical upgrade training for teachers to stay current with knowledge, skills, and processes needed by business and industry. After the training, teachers will make appropriate changes in the curriculum and hands-on activities to enable students to learn the knowledge and skills needed for success in business and industry and life long learning. Modification to the learning process is made to accommodate learning needs of students.

The Technical Education Data System is designed to compare successful outcomes of students with special needs to all students enrolled in technical education. One of the major problems is inaccurate and incomplete data or data not being entered into the system. Another problem is the duplicated entry for individual students in the same program or individual student enrolled in a class in multiple programs. Data from randomly selected schools will be reviewed monthly to determine if all pertinent data has been entered which includes all demographics for each student to assure race, sex and special populations can be identified in the aggregate for reporting purposes. In addition, onsite data audits will be conducted to document that an audit trail exists for the students enrolled in technical education and that special populations are identified. The audit will include evidence that special populations actively participate in the program and are successful. Professional development activities will be held for school personnel to learn how to use the approved performance indicators to evaluate and improve the program. In addition, professional development activities will be held for individuals who enter the data to see that they understand the definitions of student populations in relation to the performance indicators.

The Department for Technical Education and the Department of Education are collaborating to get academic attainment scores of secondary students who attend the state operated area technology centers and postsecondary institutions. This will be accomplished by merging the scores of all the students who attend the area centers based on the home high school for each of the students. This will include the special populations categories.

Currently, the Technical Education Data System does not generate data to show how many students start out in Career and Technical Education as a ninth grader and graduate from high school as a CTE student four years later. Presently individual student records are available to show the programs in which the students enrolled each year. During a data audit of selected schools, several of the schools had students enrolled in three different programs. Since several students were enrolled in three different programs, it is likely that those students may not be a concentrator in a preparatory program.

Currently, the high school graduation indicator is based on the number of concentrators who graduate from high school and the number of students (concentrators) who leave secondary education in the same reporting year.

B. Strengthening Connection between Secondary and Postsecondary Education

Revisions

Revise your state plan to reflect any new strategies or activities you have undertaken or will undertake over the next year to link secondary and postsecondary education and to prepare vocational and technical education students for postsecondary education, including students who are members of special populations. Sections 122(c)(1)(C), 122(c)(8)(C), and 122(c)(19) Perkins III

In your revision, please describe any efforts you may be undertaking as part of your administration of Title I or Title II (Tech Prep) to:

1. Align secondary and postsecondary academic and technical skill standards.

   The Department for Technical Education is working toward structuring all programs that have an industry recognized certification to meet those standards and requirements. That includes program content, equipment, and teacher certifications. In addition, program consultants from the postsecondary Kentucky Community and Technical College System and the Department for Technical Education collaborate on the curriculum for programs that are housed at both systems so that the same technical and academic knowledge and skills are taught. The curriculum alignment is intended to enable secondary students to continue on to postsecondary education without having to retake courses in that particular sequence of courses leading to their occupational choice.

   The participating institutions in a Tech Prep consortium have an agreed upon secondary/postsecondary curriculum, and the secondary students receive dual credit for their work upon enrollment in the postsecondary institution..

   As both secondary and postsecondary institutions work toward having programs and teachers to meet industry-recognized certification standards, the students will have the knowledge and skills for current and emerging employment and be prepared to continue their education as technology and a global economy cause change to occur.

2. Reduce the need for remediation by vocational and technical education students who enter postsecondary education.

   The interdisciplinary math and science courses in the career and technical education programs as well as other instructional strategies and content in the various technical education programs enables the students to “see” the need and to understand the value of math, science, reading, and writing in the application of the technical content of their career choice. The Kentucky Core Content must be integrated into all courses in the programs. As mentioned earlier, the technical education curricula integrates the required academic core content to help students be successful. Workshops were held last summer to work with career and technical

education secondary teachers to align the curriculum with the core content. This is an on-going activity.

In addition, the New Teacher Institute provides training for new teachers from business and industry to align the core content with the technical education curriculum.

3. Develop and implement statewide articulation agreements between secondary and postsecondary institutions.

   The majority of the articulation agreements between secondary and postsecondary institutions are based on the individual arrangement between the two schools. Many of those agreements are based on an individual basis by looking at the student's transcript and the determination being made when the student tries to enroll as a postsecondary student in the postsecondary institution. These agreements between individual institutions include Tech Prep programs as well as Perkins Title I programs. The Department for Technical Education has signed an agreement with one of the universities in Kentucky to accept secondary credit (six hours) in the Construction programs as postsecondary credit toward the associate degree or bachelors' degree in Construction Management. This agreement includes all the state operated area technology centers that offer Construction related programs. The Department for Technical Education also has a statewide agreement with Spencerian College in the areas of Computer Aided Design Drafting, Computer Graphic Design, Electronic Engineering Technology, and Computer Engineering Technology. The Department for Technical Education is currently working with six other universities to have similar articulation agreements comparable to the construction program articulation agreement.

   The Department of Education has developed statewide articulation agreements in selected career and technical education programs with Kentucky universities. These agreements for the selected programs will eliminate individual agreements between each school district and the appropriate university. The high school graduate must meet specified criteria in order to receive the credit. The criterion the student must meet varies in the number of high school technical education credits the student must pass for each program. All students must have at least a "B" average and pass the Kentucky Skills Standards Assessment. Either the MOS (Microsoft Office Specialist) Certification in the Business Program or the Kentucky Skill Standards Assessment in Business is required in the Business articulation agreement. Agreements have been signed with Eastern Kentucky University, Morehead State University, Murray State University, and Western Kentucky University. One university has signed the Business articulation agreement, one university has signed the Family and Consumer Science articulation, and four universities have signed the Agricultural Education articulation agreements. These three agreements are applicable to any high school graduate who meets the specified criteria for each program area.

Secondary students who are enrolled in and attend technical education programs in the Community and Technical College System as secondary students are articulated and those students receive postsecondary credit for the work they completed as a secondary student. The students may start their postsecondary course of study at the point of the program completion as a secondary student.

4. Expand opportunities for secondary vocational and technical education students to earn and use college-level credits.

   Dual credit, where the students earn secondary and postsecondary credit, is awarded to all secondary students who complete a technical education program and graduate from high school and enroll in a postsecondary institution where there is an articulation agreement with the secondary institution. In some cases students who do not complete an entire program but earn three credits in their program of choice, graduate from high school and enroll in a postsecondary institution where there is an articulation agreement with the secondary institution also receive dual credit. The amount of credit given to students as a postsecondary student is based on the individual agreements the secondary schools have with postsecondary institutions. This includes the signed statewide articulation agreements and the individual articulation agreements the individual local school districts and/or area technology centers have signed with postsecondary institutions. The individual articulation agreements include agreements developed through the Tech Prep consortium.

   The secondary and postsecondary institutions review curriculum for proper alignment and develop guidelines for awarding credit. Guidelines may include minimum GPA; minimum grade achieved; series of courses completed; successful achievement on skill standards assessment and/or successful completion of a particular O'Net certificate or industry standard certification.

   Some secondary students enroll in college courses while they are still attending high school, and they are considered as dual enrollments. When these students graduate from high school and enroll in the postsecondary institution, they receive articulated credit for the postsecondary course taken at the same time they were completing high school. These dual enrollments are usually in required academic courses such as English. In addition, area technology centers operated by the Kentucky Department for Technical Education have some dual enrollment agreements with Kentucky Community and Technical College campuses to give postsecondary credit for the technical courses the students took as a secondary student after they enroll as a postsecondary student in the postsecondary institution.

5. Improve or expand opportunities for students enrolled in associate degree vocational and technical education programs to continue their education by transferring to baccalaureate degree programs.

   Continuing education for postsecondary students who complete the associate degree, diploma, or certificate technical education programs has always been identified as

one of the positive placements for students. The Council on Postsecondary Education general education transfer allows colleges and universities to accept each other's general education requirements for transfer students. Each institution identifies the courses that meet General Education Transfer Policy requirements. There are three types of certification to get the transfer credit. Fully certified transfer is the completion of a general education program of 48 semester hours, including the 33- hour Core Transfer Component. The students must receive an approved AA or AS transfer degree or earn 60 hours of undergraduate credit and have a cumulative grade point average of 2.0 or higher. If the receiving university or college requires more than 48 hours, additional general education credits will have to be completed. The Core Component Certified requires the student to be in good standing and complete the Core Transfer Component. The remaining general education requirements will have to be completed if the receiving institution is not satisfied through the Core Transfer Component. Category Certified is the third type of transfer for postsecondary students in two-year programs. The student must complete one or more of the five categories in the 33-hour Core Transfer Component. The remaining general education requirements at the receiving institution must be completed. The Core Transfer Component includes 33 credit hours in communications, humanities, behavioral/social sciences, natural sciences, and mathematics, which include college algebra. These 33 credit hours are used in the degree programs at all universities. The remaining 15 general education courses may differ from one university to another.

A transfer framework is a list of courses that are a part of a particular major and is a planning tool to transfer from a two-year program to a four-year program in that major. There is a 60-credit hour framework for each bachelor's degree program (major) offered in the state. If the 60- hour package requirements, general education courses and the courses in major, are completed, the entire 60-hour package is transferred to the receiving college or university. Students do not have to retake any courses they satisfactorily completed. The 60-hour package includes 48 credit hours in general education and 12 hours in the major. Students must earn at least a 2.0 grade point average based on a 4.0 scale in courses included in the framework. Some universities do not accept a "D" in a transfer course even if the student has an overall 2.0 GPA. (Council on Postsecondary Education Home Page)

Five of the six public regional universities that offer associate degree technical education programs responded to a survey to identify the transfer opportunities available to students who had completed an associate degree in that university as well as the policy to accept transfers from other universities and the Kentucky Community and Technical College System. The consistent factor among the responses from the universities was most of the associate degree credits in their own university did transfer to a baccalaureate degree at that particular university. There was one university that had a program that ended with the associate degree. The acceptance of credits from other institutions varied. Departments within one university had different policies regarding accepting credits for transfer from like programs from other universities. One of the programs at one university reported

that they required all A.A. students from other programs to take a minimum of 15 semester hours in the specific program at the university to get a B. A. degree.

Some programs have articulation agreements with other institutions to accept certain courses and others will take all of the credits the students have earned. Students may be required to remediate whatever the institution may require. One associate degree program terminated at the associate degree level, and graduates would not be accepted into the four-year program without the student starting over again. One university has a statewide articulation agreement with the Kentucky Community and Technical College system to articulate any of the associate degrees into a Bachelor of Organizational Studies. The students receive 64 semesters of credit toward the 128 total needed.

The Kentucky Community and Technical College System has articulation agreements with public and private universities in Kentucky and one university in a neighboring state. These agreements include Culinary Arts, Occupational and Development, Justice, Telecommunications, Agribusiness, Business, Radiology, Nursing, and Respiratory Care.

The Council on Postsecondary Education's policy on articulation/transfer of credit set out the basic framework but gave the postsecondary institutions some flexibility to choose what each university would accept. The results from the surveys that are summarized in the previous paragraph demonstrate there is great variation in the transfer of associate degree or less credit in the postsecondary setting.

Context for Revision

Recent national data indicate that while nearly all students indicate their intention to attend college, roughly 60 percent actually enroll by the spring following graduation and, of these students, only half complete college five years later. Among the reasons purported for these results is the lack of strong academic core which research has shown to be the best predictor of college entry and retention (Adelman, National Center for Education Statistics, *Answers in the Tool Box*, 1999)

To address issues related to postsecondary transition and retention among students, states have begun to make strides in better connecting their secondary and postsecondary education programs. Their strategies include Tech-Prep programs, dual enrollment, and articulation agreements to award advanced college credit for college courses taken during high school. Each of these strategies is designed to assure that students meet core academic requirements for graduation and have the opportunity, to the extent possible, to begin accumulating college credit while still in high school.

C. Preparing Individuals for Occupations in Demand that Pay Family Supporting Wages

Revisions

In your state plan, you described how the programs you assist will prepare vocational and technical education students for opportunities in postsecondary education or entry into high skill, high wage jobs in current and emerging occupations." You also described how "vocational and technical education relates to state and regional occupational opportunities. Sections 122(c)(1)(C) and (15) Perkins III

Revise these provisions of your state plan to reflect how vocational and technical education relates to current occupational opportunities. In your revision, please address the following questions:

1. What economic changes have occurred in your state, and within different regions of your state, since you submitted your state plan?

   The Kentucky economy is forecast to follow the national economy. A strong economic growth is expected for 2004 and moderate growth in 2005 and 2006. This combination of expected growth is forecast to slowly drive down the unemployment rate and employment should return to pre-recession levels by 2005. [**Kentucky Annual Economic Report 2004, Gatton College of Business and Economics, University of Kentucky]**

   The Kentucky Annual Economic Report reports the job loss in Kentucky is largely driven by the employment declines in manufacturing industries. However, the sharper job losses in Kentucky cannot be accounted for by declines in manufacturing. Kentucky lost employment at a faster rate than the nation from 2001 to 2003. The non-farm employment growth is projected to be 2.1 percent in 2004 and 1.9 percent in 2005 and 2006.

   One of the articles in the Kentucky Annual Economic Report asked the question if the growth in the service sector would have a significant change in the types of employment available in the economy. They reported that the focus on service jobs usually was on retail or personal service (local services and low wage) rather than the national economy. There is a group of service industries that provide higher wage employment opportunities, and provide services to customers over a wide region. Examples of producer services include accountants, consultants, financial industry workers, communications workers, and computer service providers.

   Producer service businesses primarily sell services to business and government, rather than to households. Producer service businesses have increased recently because client firms and agencies have chosen to procure professional expertise and analyses from outside firms rather than in-house staff. The producer services agencies operate in several industries: Information, Financial and Insurance, and Professional, Scientific and Technical Services. Producer services firms tend to concentrate in larger Metropolitan areas where there are demands for their service.

Kentucky has a significantly larger share of employment in mining and manufacturing than the nation, but a significantly smaller share in the producer services industry of Information. Kentucky has 9.7 percent of its employment in producer services industries as compared to 13.8 percent nationally. Nearly half of the Kentucky's population lives in non-metropolitan areas. Producer services sell their services throughout the nation, pay relatively high wages, and are growing rapidly; the author of the report recommended that Kentucky should keep a strong interest in maintaining and improving the growth and performance of its producer services businesses.

E-Commerce is expected to continue to cut into traditional retail sales at existing "brick and mortar' institutions. The University of Kentucky distributed a survey to two separate groups of Kentucky businesses. One survey went to 2,000 firms of all sizes; the second survey went to 1,000 firms that employ at least 100 individuals. There were more responses from small businesses than the large businesses. The survey results indicates large businesses are using E-Commerce less than in years past. There was a slight increase in the use of E-Commerce for small businesses over the previous year. Overall, there was a decline in the use of E-Commerce. Large businesses are more likely to sell their product to governmental agencies and other businesses while small businesses tend to sell to individual consumers. (The above information comes from the Kentucky Annual Economic Report, 2004.)

The top 50 Kentucky occupations for employment due to need for new employees and replacement of employees who retired or left employment for some other reason are identified in the following chart. These occupations are ranked by the average annual openings from 2000-2010. [Employment Services—Workforce Kentucky Your Source for Kentucky Labor Market Information]

Top 50 Kentucky Occupations

Occupational Title	Average Annual Openings	2001 Average Hourly Wage
Associate Degree or Higher		
Registered Nurses	1,035	$20.29
Computer Support Specialists	613	$15.93
General and Operations Managers	505	$29.00
Computer Software Engineers, Application	335	$29.89
Teachers, Primary, Secondary, Adult, all Other	228	N/A
Computer Systems Analysts	210	$28.27
Network & Computer Systems Administrators	176	$22.42
Clergy	174	$16.96

Accountants & Auditors	172	$20.56
Lawyers	168	$35.27
Long-Term OJT to Postsecondary Vocational Training	**Openings**	**Wages**
First-Line Supervisors of Retail Sales Workers	346	$13.36
Electricians	259	$18.69
Licensed Practical & Licensed Vocational Nurses	242	$13.40
First-Line Supervisors, Office & Administration Workers	239	$16.92
Cooks, Restaurant	208	$8.66
Automotive Service Technicians & Mechanics	203	$12.38
Carpenters	203	$14.99
Police & Sheriff's Patrol Officers	191	$15.19
First-Line Supervisors, Construction Trades & Extraction	185	$21.25
Welders, Cutters, Solderers, and Braziers	184	$13.36
Short-Term to Moderate-Term OJT	**Openings**	**Wages**
Combined Food Preparation & Serving, Inc Fast Food	1,337	$6.66
Retail Salespersons	935	$9.18
Customer Service Representatives	819	$11.79
Cashiers	697	$7.21
Laborers & Freight, Stock & Material Movers, Hand	644	$10.24
Nursing Aides, Orderlies, and Attendants	523	$8.60
Janitors & Cleaners, Ex Maids & Housekeeping	509	$8.49
Truck Drivers, Heavy/Tractor Trailer	491	$14.94
Office Clerks, General	475	$10.20
Truck Drivers Light or Delivery Service	468	$10.67
Waiters and Waitresses	423	$6.84

Child Care Workers	406	$7.33
Team Assemblers	392	$15.42
Receptionists/Information Clerks	380	$9.30
Short-Term to Moderate-Term OJT	**Openings**	**Wage**
Security Guards	359	$8.73
Teacher Assistants	358	N/A
Medical Assistants	314	$10.96
Home Health Aides	312	$8.28
Landscaping & Groundskeeping Workers	312	$9.34
Packers and Packagers, Hand	312	$8.57
Assemblers and Fabricators, All Other	300	$11.81
Stock Clerks and Order Fillers	238	$9.84
Executive Secretaries and Administrative Assistants	232	$14.41
Social and Human Service Assistants	216	$10.38
Construction Laborers	205	$11.42
Food Preparation Workers	190	$7.87
Bookkeeping, Accounting and Auditing Clerks	180	$11.86
Dental Assistants	173	$11.66
Correctional Officers and Jailers	166	$11.27
Bill and Account Collectors	163	$11.29

Automotive technology, carpentry, electricity, welding, health, manufacturing and office and administrative support programs are offered in secondary and postsecondary institutions. These programs will prepare students to move into these new employment opportunities when they complete the program and graduate from the institution. Students will have the option of continuing their education/training in a postsecondary setting, becoming employed, or working and continuing their education. The projected wages for these occupations are at least $12 per hour and would provide an estimated income of $24,960. Kentucky's per capita income is $24,878.

Kentucky does have primarily in the urban areas of the state Producer Services occupations that could open up employment possibilities for information technology graduates. On March 29, 2004 a newspaper article in the Courier Journal identified the Internet, finance, and education as fertile areas for employment if the individuals had the necessary skills and/or were willing to move.

Information from Kentucky Employment Services projects the Kentucky economy is expected to average over 76,000 new jobs annually between 2000-2010. Nearly a quarter of the new jobs created between 2000-2010 will be in the two largest occupational groups—Office and Administrative Support Occupations and Production Occupations. The fastest growing group of occupations (68.4 percent) is computer and mathematical occupations with Occupational and Physical Therapist Assistants and Aides being the second fastest growing group of new jobs. New jobs in the Healthcare Support Occupations are also expected to grow just above the growth rate for all occupations because of the need to care for aging Kentuckians.

Farming, Fishing, and Forestry Occupations will likely continue to decline, but at a slower pace than in the recent past. Occupations requiring short-term on-the-job training account for nearly half of the total average annual job openings. Occupations that require moderate-term on-the-job training provide the best opportunities for persons not considering college. There are twice as many average annual job openings in these jobs than jobs that require long-term training. The average wage for moderate-term on-the-job training is $27,000

Low pay is given for jobs requiring short-term, on-the-job training; pay is significantly higher for jobs requiring long-term, on-the-job training, but this category is projected to grow the slowest of all the categories. Occupations requiring higher levels of education are increasing in the share of total employment between 2000 and 2010.

Changes in technology, work processes, automation and the demand for products/services are the major causes of projected employment change—both growth and decline—among all occupations. Kentucky's workforce resides in those occupations requiring either moderate-term or short-term on-the-job training. This reflects that the economy is reliant on manufacturing and services; however with technology expanding throughout the workforce, many of these occupations will require additional skills and training in the future.

Some of the fastest growing occupations in Kentucky mirror some of the fastest growing occupations in the nation, especially those occupations that provide care for an aging population.

The following two charts identify the twenty occupations losing the largest number of jobs and the twenty fastest-declining occupations between the years 2000 –2010 in Kentucky.

Kentucky Occupations Losing Jobs	Fastest-Declining Kentucky Occupations
Farmers and Ranchers	Railroad Brake, Signal, and Switch Operators
Agricultural Managers	Rail-Track Laying & Maintenance Equipment Operators
Sewing Machine Operators	Rail Car Repairers
Postal Service Workers	Fabric & Apparel Patternmakers

Postal Service Mail Carriers	Signal & Track Switch Repairers
Order Clerks	Textile Knitting & Weaving Machine Setters and Operators
Loan Interviewers and Clerks	Insurance Claims & Policy Processing Clerks
Tellers	Railroad Conductors & Yardmasters
Insurance Claims & Policy Processing Clerks	Loan Interviewers and Clerks
Electrical & Electronic Equipment Assemblers	Sewing Machine Operators
Dishwashers	Shuttle Car Operators
Switchboard Operators, Inc Answering Service	Helpers—Extraction Workers
Mining Machine Operators	Extraction Workers, All Other
Couriers and Messengers	Roof Bolters, Mining
Electrical, Electronics & Electromechanical Assemblers	Continuous Mining Machine Operators
Postal Service Mail Sorters and Processors	Mining Machine Operators
Butchers and Meat Cutters	Meter Readers, Utilities
Helpers—Extraction Workers	Agricultural Managers
Continuous Mining Machine Operators	Loading Machine Operators, Underground Mining
Machine Feeders and Offbearers	Order Clerks

The Road Ahead published by the Kentucky Long Term Policy Research Center reviewed trends toward globalization in Kentucky. Kentucky has a strong presence globally through its international trade and foreign-direct investment. Kentucky businesses are becoming more aware of the importance of competing internationally. The Progressive Policy Institute ranked Kentucky eighteenth among the states to its relatively high vulnerability to disruptions in the global economy. The State has benefited from globalization through a rising export market and investment of foreign capital. Manufacturing exports accounted for 94 percent of Kentucky's exports in 2000. Foreign investments in Kentucky have created jobs.

The Road Ahead also reported the number of ISO 9000 companies registered in Kentucky indicates that a substantial portion of Kentucky's firms are fully prepared to participate in the global economy and remain sufficiently competitive, profitable, and a long term presence in the State. ISO companies have a set of business standards that are designed for international commerce. The numbers of businesses that are ISO registered have grown from 11 in1992 to 626 in 2002.

2. Have there been any new economic or workforce development priorities or initiatives in your state?

The Ford Plant in Louisville has announced an expansion of it operations and will employee about 100 employees. . UAW autoworkers earn an average of more than $53,000 a year. Eight firms who wanted to employ personnel participated in a job fair that was held in the middle of March 2004. (Courier Journal Article)

The 2004 legislature passed four bills related to economic development. Two of these bills are related to tax incentives for companies. One of the bills increased the percentage of approved costs the company might recover, removed the employee contribution portion of the wage assessment, and limited the total tax assessment. The other bill clarified that eligible service or technology activities for the tax incentives were limited to new or expanded development. The third piece of legislation was to include small businesses in the review of administrative regulations that may impact small business and to establish reporting requirements. This bill authorized a nonbonding determination that an administrative regulation is deficient if the regulation imposes an unreasonable burden on small business. The Commission on Small Business Advocacy is required to review administrative regulations that may impact small business and to establish reporting requirements. The fourth bill was to develop coalbed methane wells and to provide an appropriation to implement the development of such wells. The development of methane wells will result in new jobs and new products.

The Kentucky Office for the New Economy published a document, "The Next Industrial Revolution: A Revolution where Science Meets Business and Industry". This Office has partnered with the private sector to build sources of seed and venture capital and has focused prospering in the New Economy. This office has looked at the state and identified special opportunity areas that have promise for the New Economy for Kentucky. These opportunities include adapting oil-field technology to open opportunities to extract methane gas from coal seams; cardiovascular research for testing, clinical evaluation, and development of bio-adaptive heart innovations; establish a dominant role in the Natural Products industry to identify new crops and technologies in agriculture to be used in medicines, agriculture, and industrial applications; advanced manufacturing to improve processes and bring prototypes of new products; homeland security; information technology; new economy business development; information technology and communications infrastructure; and innovation and commercialization centers to create and expand knowledge based new economy companies.

The Courier Journal reported in its April 20, 2004 issue of the newspaper that a corporate office for a natural products industry would be located Louisville. This company is doing research to identify new technologies in the use of the natural products in pharmaceuticals.

Kentucky received a Homeland Security grant. The Department for Technical Education is applying for a grant to start secondary technical education programs

in law enforcement, fire and rescue, emergency medical technician, and corrections (guard) in 25 area technology centers. If the Department receives this grant, the students who complete these new programs will receive dual credit with the Kentucky Community and Technical College System, Eastern Kentucky University and the Kentucky State Police. This grant involves not only the education community but also local police and fire departments and other officials to come up with the instructional material. A statewide survey was conducted to determine if students had an interest in these programs; 46,000 students showed an interest. Most of these jobs are included in the Top Fifty Kentucky Jobs.

The Kentucky Workforce Investment Board will begin organizing its efforts around industry clusters. This will allow educational institutions, businesses and government to be more strategic and collaborative in their educational and economic development efforts. The two clusters under consideration for primary focus are life sciences (includes health care and biosciences) and advanced manufacturing. Information technology has been identified as a core skill set essential to all clusters. Other clusters include education, environmental and energy technologies, public safety and security, leisure and hospitality, and transportation and warehousing.

3. What criteria do you use to identify "high skill, high wage jobs" in your state?

   High skill jobs include competencies that require the application of math, science, and communication skills—writing, speaking, listening--- to solve problems, design projects, estimate time to complete and materials needed for completion, and to perform specialized technical skills required to complete the project.

   Criteria to identify high wage jobs in Kentucky included the per capita income in 2001, the average poverty threshold for a family of four for 2004, and estimated yearly income approximately two and one-half times of the current minimum wage. An individual earning approximately two and one-half times the current minimum wage for a forty-hour workweek a year would earn an income in the range of $24,960 to $26,790 a year. The range in the income would exceed Kentucky's per capita income for 2001 of $24,878 and the national average poverty threshold for 2004 of $18,850 for a family of four. .

4. What jobs do you consider to be "high skill, high wage jobs" in your state?
   The "high skill, high wage jobs" in Kentucky are based on the Top Fifty Kentucky Occupations that are ranked by annual openings due to growth and replacements and the hourly wage. The Top 50 Kentucky Occupations chart that appears in this document also identifies the level of education and training needed for each of the top fifty. The occupations considered high skill and high wage fall under health occupations, information technology, administrative assistants, automotive service technicians and mechanics, carpenters, police patrol officers, welders, cutters, solderers, and braziers, truck drivers, and team assemblers. Each of these jobs has an estimated hourly wage of at least $12 per hour.

4. Have you established any particular priorities among these occupations?

   Since the definition of a program in Carl D. Perkins Vocational and Technical Education Act of 1998 limits funding to associate degree or less programs, the occupations listed above that require training and education at the associate degree or less were selected. Many of the secondary and postsecondary programs offered in Kentucky include health occupations, information technology, office technology, transportation, construction, and advanced manufacturing. These program offerings match the Top Fifty Kentucky Occupations that will be replacing employees who leave the company or business or will be expanding operations to increase the workforce.

5. How do you use Perkins funds to promote, develop, or assist secondary and postsecondary programs that prepare individuals for these jobs?

   The Perkins funds will be used to improve, expand and/or develop new programs that provide students with academic and technical knowledge and skills required in the current or emerging occupations in the workplace. In addition, the funds will be used to benefit only the students who choose to enroll and are enrolled in a technical education programs that meets the definition in the law.

   The first priority is to use the funds for the required uses of funds. Any remaining funds will be used for the permissive uses identified in the law. The major uses of the funds will be for professional development of teachers to keep their skills current with industry, to receive and update industry certifications for both the teacher and the program, and the purchase of equipment and educational resources to meet industry standards. Professional development activities include academic and technical knowledge and skills updates, new program applications and technologies, business and industry collaboration, emerging occupations and technologies that impact programs. Professional development will also include information about the Top Fifty Occupations in Kentucky and the need to make students aware of programs that lead to an occupation that will pay a living wage; this includes understanding how the work skills and environment has changed and will continue to change because of technology; in addition teachers should make students aware of the opportunities in occupations that are nontraditional for their gender. As a part of the professional development, teachers will participate in activities that will prepare students who choose occupations that are nontraditional to their genders to succeed in the workplace. Teachers should share with students who are enrolled or potential students how the work skills and environment has changed in many instances because of technology.

   Funds will also be used to revise curricula to keep the knowledge and skills taught in each program current with knowledge and skills needed to succeed in business and industry and continuing education. The revisions will include the alignment of core content required by Kentucky Education Reform Act, No Child Left Behind, and postsecondary entrance requirements.

Professional development activities will be held for individuals who enter the accountability data at each institution. This will include the basic steps of how to enter the data, verifying the accuracy of the data entered, assuring that appropriate source documents are available to back up the data entered, that each program does in fact have a sequence of courses leading to an occupation. In addition the professional development will also focus definitions of exploring students, preparatory students, program, program completion, leavers, transfers. Beside the professional development activities for data entry personnel, data audits will be conducted at secondary and postsecondary institutions to assure the data entered is complete, accurate, and reliable. Data audits will include technical assistance in reviewing the data and using the data to evaluate the effectiveness of the programs and to identify programs that need to be improved.

Context for Revision

Technology and global economic competition are combining in unprecedented ways to change work and redefine the American workplace. Unlike jobs a half-century ago, most of today's jobs that pay family-supporting wages and other opportunities for advancement demand strong academic and technical skills, technology proficiency and further education and training beyond high school. In fact, current Bureau of Labor Statistics projections indicate that many of the fastest growing and better-paying jobs now require postsecondary education beyond high school.

D. <u>Investing in Effective, High-Quality Local Programs</u>

Revisions

In your state plan, you described "the criteria" that you would use "in approving Applications by eligible recipients for funds" and how you would "annually evaluate the effectiveness" of vocational and technical education programs receiving assistance." Your state established the requirements for the local plans, except that each plan had to meet the requirements of section 134(b) of Perkins III, including a description of how the vocational and technical programs assisted would meet the requirements of section 135 (b) and an assurance that the local recipient would provide a vocational and technical education program that is of such size, scope and quality to bring about improvement in the quality of vocational and technical education programs. Local recipients of funds also must "provide services and activities that are of sufficient size, scope, and quality to be effective." Sections 122(c)(1)(B), 122(c)(6), 134(b)(1) and (5), and 135(b)(7) of Perkins III.

Update your state plan to indicate the criteria you will use to extend the local plans for another year and provide a copy of any secondary or postsecondary local application form that you will be using to award Perkins funds that will become available on July 1, 2004. Specifically, please describe how you determine whether local recipients will "provide vocational and technical programs, services, and activities that are of sufficient size, scope, and quality to be effective," including:

1. Any special requirements you have established to assure that local services and activities are of sufficient size, scope, and quality to be effective.

   The definition of sufficient size, scope and quality means to give reasonable promise of meeting the vocational education needs of students enrolled in technical education. Scope defines the area covered by a technical education program. Scope includes academic and technical knowledge and skills needed in the industry, all aspects of the industry the program represents, teaching strategies and instructional aids that address all learning styles and educational needs of students, and modifications to the processes to assure all students achieve. Size means proportions or qualities to meet given requirements. Size would include such things as lesson plans to reach established objectives, the amount of time required to teach or re-teach the established objective, evaluation of student knowledge and skills related to the objective being taught, and the sequence of courses with competencies to be completed. Quality is the degree or grade of excellence or essential character. Quality deals with how well the students demonstrate they understand and apply the knowledge and skills necessary to perform competencies essential for continued education and employment in their program of choice. The other quality issue is that the program provided instructional content and hands-on applications that prepared the students to demonstrate their competencies meet industry standards. The program must have a sequence of courses in a current or emerging occupation that integrates academics with the technical content and that teaches problem solving and application of the industry required competencies. The sequence of courses at the secondary level must be at least four and the sequence of courses at the postsecondary must be a major in an occupational program that ends with an associate degree, diploma, or certificate.

2. The criteria you use to determine whether local program, services, and activities are sufficient size, scope, and quality to be effective.

   The first criteria would be the sequence of courses in each program that ultimately leads to a current or emerging occupation. The curriculum would have to demonstrate that academics are integrated with the technical content, that students are taught to think critically, to solve problems, and given opportunities to apply the knowledge and skills. The secondary postsecondary curriculum alignment is important to the scope of the program so secondary students are able to articulate to a postsecondary institution to continue the educational program. Teacher and program certification by appropriate business or industry would demonstrate that the program included the essential knowledge and skill levels to enable the students to be successful. In addition, professional development activities to keep the teachers current with business and industry employment needs are an indicator of the quality of the program as well as the program is up to date. Using a variety of instructional strategies that meet the educational needs of all

students enrolled is another way to look at the effectiveness of the scope of the program. Other criteria that indicate the effectiveness of the program include number of students who complete the program, annual increase of completers, employment opportunities, and the number of students who become employed and/or who continue their education. Upon program completion and graduation from school, the knowledge and skill level of academic and technical competency of each student should be at the highest possible point in the curriculum the time in the program made possible. Students should be prepared to continue their life long learning. The last measure of program effectiveness is to see if each individual program within a school met it performance measures as well as the school.

3. The extent to which, and how, previous program performance is considered in evaluating program quality.

   Each school will be notified of how well it achieved the objective for each of the performance indicators and to prepare a plan for improvement for each measure that was not met. In order to prepare the plan, each school will have to determine why the performance measure was not achieved. Eventually, trend data over a certain periods of time will available for each school, school district, and the state as a whole to review to determine if continuous improvements in the outcomes of the performance measures were made.

   The accuracy and completeness of the data entered into the TEDS system by each school is another criterion to determine the quality of the program. Data that is missing or data that does not balance in certain cases will identify potential problems that need to be addressed. Random desk audits of the data will be conducted to identify potential problems that need to be addressed. In addition, on-site data audits will be conducted to assure the data is accurate and that it is complete. Each school must have source documents that match the data entered into the TEDS system.

   Results of on-site data audits will confirm whether or not documentation was available at the local level for an audit trail that the students were enrolled in and completed a technical education program sequence of courses at a satisfactory level.

   Program evaluation or assessments are conducted at the secondary and postsecondary levels. Programs in secondary area technology centers are evaluated through a 21 standards assessment process to determine program effectiveness. The standards include such things as the potential for employment upon completion of the program, student transition into employment or postsecondary education, industry certification and use of technology in the program. In addition, programmatic reviews include lesson plans, master schedules, and O'Net certificates aligned with the curriculum.

Postsecondary programs at the Kentucky Community and Technical College System has a pre and post assessment related to Work Keys, program profiling and curriculum revision to determine the academic success of the students who complete the programs.

Programs in local school districts receive a report that identifies performance levels in academic achievement, test results of state skill assessments, graduation rates, transition to employment and/or postsecondary education, nontraditional participation and an increase in the number of career major certificates and certificates of achievement.

4. The process you use to approve local plans and evaluate local applications.

   Each application will be reviewed using the criteria in Sections 134 and 135 of Perkins III to decide if improvements to the program(s) will occur and if the intent of the law is met. In addition, schools that did not meet or exceed the performance indicators will have to explain why they did not meet the performance measure and what steps they will take to meet the indicator(s) in the reporting year the funds are to be used. The local application/budget will be revised to include an explanation of why the performance indicator was not met, what will be done to meet or exceed the measure in the current year, and how the action to be taken to meet the performance indicator impacts whether or not it will require using Perkins funds.

   One of the measures in the evaluation of the local application/budget will be to see that all data were entered into TEDS for all programs located at the eligible institution. In addition, how funds were used in the past will also be reviewed to see whether or not funds are being used for the same program, purpose or items year after year. Using the size and scope of the program as a criteria, the improvements should include new knowledge and skills being used in business and industry that includes the updated integration of academics with technical content, curriculum revisions, reference materials, instructional software, and professional development pertinent to the new knowledge and skills.

   The completion and placement rates of schools that offer programs that match the Top Fifty Jobs in Kentucky that have a high wage and high demand for skilled technicians such as carpenters and electricians will be reviewed in relation to making program improvements, expansions, or developing new courses to meet industry standards. Many of the Top Fifty Jobs in Kentucky are nontraditional occupations for one gender or the other. Another evaluation criterion will be whether or not the program offerings at the school provides an opportunity for both genders to pursue nontraditional occupations that provide high skill and high pay and what the nontraditional program participation and completion rate is for that school.

Content (Context) for Revision

Since Perkins III was enacted in 1998, states have made great strides in developing their Perkins accountability systems. These systems now yield a considerable amount of data that can be used in evaluating the size, scope and quality of local vocational and technical programs, services, and activities, for making informed decisions about funding for local educational agencies. In fact, a growing number of states are using their local data in their annual local application and funding process. In these states, for example, eligible recipients are required to allocate funds in areas where they have fallen short of the State's or their local performance levels.